

Patent Claims:

1. A cold-rolled strip, at least one side of which is provided with an electrolytically applied coating, preferably for use in the manufacture of battery shells through deep drawing and/or ironing, wherein the electrolytically applied coating includes at least two layers, namely a hard and brittle bright nickel layer as well as a cobalt containing layer applied thereon,
characterized in that,
the cobalt containing layer is a matte cobalt layer or matte cobalt alloy layer that is deposited from an electrolyte bath without bright forming additives.
2. A cold-rolled strip in accordance with claim 1, characterized in that the matte cobalt layer or matte cobalt alloy layer contains electrically conductive particles like, for example, graphite, carbon black, TiN, and/or additives an nickel, iron, tin, indium, palladium, gold and/or bismuth to improve the electrical conductivity of the battery shell formed through deep drawing and/or ironing of the cold-rolled strip.
3. A cold-rolled strip in accordance with one of claims 1 or 2, characterized by a steel with carbon content of less than 0.20% and a thickness of up to 1mm as a metallic carrier material.
4. A cold-rolled strip in accordance with one of claims 1 through 3, characterized in that the metallic carrier material is pre-coated beneath the bright nickel layer on one or both sides.

5. A cold-rolled strip in accordance with claim 4, characterized in that it is possibly also pre-coated after the application the diffusion annealed nickel layer.
6. A cold-rolled strip in accordance with one of claims 1 through 5, characterized in that the thickness of the bright nickel layer amounts to less than 2 µm, preferably less than 1 µm.
7. A cold-rolled strip in accordance with one of claims 1 through 6, characterized in that the thickness of the matte cobalt and the matte cobalt alloy layer amounts to 0.01 to 0.2 µm, preferably 0.01 to 0.05 µm.
8. A method of electrolytically coating a cold-rolled strip with a coating formed from at least two layers, wherein on the cold-rolled strip is initially deposited a layer from a nickel ion and organic additive containing electrolyte bath nickel layer containing a decomposition product of these additives and/or reaction product and afterward is deposited on this nickel layer out of an organic bright additive free, cobalt ion containing electrolyte bath ductile cobalt layer or cobalt alloy layer.
9. A method in accordance with claim 8, characterized in that a flushing step occurs between the deposition of the brittle nickel and the deposition of the ductile cobalt / the ductile cobalt alloy.
10. A method in accordance with one of claims 8 or 9, characterized in that the implemented electrolytes organic bright additives for the deposition of the brittle nickel layer, so-called secondary brighteners are added, in particular butindol, with/without addition of so-called primary bright carriers, in particular sodium o-benzosulfamide (saccharin).

11. A method in accordance with one or more of claims 8 through 10, characterized in that the electrolyte used for the deposition of the ductile cobalt / the ductile cobalt alloy contains particles of graphite, carbon black, TiN and/or ions of nickel, iron, tin, palladium, gold and/or bismuth.
12. A method in accordance with one or more of claims 8 through 11, characterized in that the deposition of the brittle nickel layer occurs at a current density between 8 and 16 A/dm², preferably at 16A/dm².
13. A method in accordance with one or more of claims 8 through 12, characterized in that the deposition of the ductile cobalt layer and the cobalt alloy layer occurs at a current density between 10 and 20 A/dm², preferably at 16 A/dm².
14. A method in accordance with one or more of claims 8 through 13, characterized in that on the cold-rolled strip before the electrolytic deposition of the brittle nickel layer a first, ductile nickel layer is deposited, wherein this deposition preferably occurs electrolytically or through PVD.
15. A method in accordance with one or more of claims 8 through 14, characterized in that the cold-rolled strip is diffusion annealed and possibly also post rolled after the application of the first, ductile nickel layer.
16. A method in accordance with one or more of claims 8 through 15, characterized in that the cold-rolled strip is cold rolled in an intermediate step after the application of the first, ductile nickel layer.

17. A battery shell, characterized in that it, through forming, in particular deep drawing and/or ironing, consists of a cold-rolled strip in accordance with one or more of claims 1 through 7, and that it is preferably manufactured according to the method in accordance with one or more of claims 8 through 16.